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10/645,952	08/22/2003	Xiao-Fan Feng	SLA1222	8258

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EXAMINER
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NOTIFICATION DATE	DELIVERY MODE
05/03/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _17 March 2010_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _14-18 and 21-23_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) _20_ is/are allowed.

6)☒ Claim(s) _14-18 and 21-23_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _17 February 2004_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March

17, 2010 has been entered.

Response to Amendment

2.   This is in response to Applicant(s) arguments filed on 03/17/2010.

- The following is the current status of claims:

     Claims 1-13 and 19 have been canceled, and claim 23 has been added.

     Claims 14-18, and 20-23 remain pending for examination, with claims 14,

     20, 21, 22 and 23 being independent. Claims 14, 17, 21, and 22 have

     been amended.

- Response to Remarks/Arguments:

     (1) Applicant's Remarks, "Claim 22 is rejected under 35 USC 10", page 8,

     with respect to claim 22 has been fully considered but is not persuasive.

     "The United States Patent and Trademark Office (USPTO) is obliged to

     give claims their broadest reasonable interpretation consistent with the

specification during proceedings before the USPTO. See In re Zletz, 893

F.2d 319 (Fed. Cir. 1989) (during patent examination the pending claims

must be interpreted as broadly as their terms reasonably allow). The

broadest reasonable interpretation of a claim drawn to a computer

readable medium (also called machine readable medium and other such

variations) typically covers forms of non-transitory tangible media and

transitory propagating signals per se in view of the ordinary and customary

meaning of computer readable media, particularly when the specification

is silent. See MPEP 2111.01." Detail explanation of claim rejection under

35 USC 101 will be given in the rejection section.

(2) Applicant's arguments filed 03/17/2010, with respect to claims 14-18,

and 20-22 have been fully considered but they are not persuasive for the

following reasons, see sections I (response to Remarks/Arguments) and II

(repeated rejections).

MPEP 2111: During patent examination, the pending claims must be "given the

broadest reasonable interpretation consistent with the specification" Applicant always

has the opportunity to amend the claims during prosecution and broad interpretation by

the examiner reduces the possibility that the claim, once issued, will be interpreted more

broadly than is justified. In re Prater, 162 USPQ 541,550-51 (CCPA 1969). The court

found that applicant was advocating ... the impermissible importation of subject matter

from the specification into the claim. See also In re Morris, 127 F.3d 1048, 1054-55, 44

USPQ2d 1023, 1027-28 (Fed. Cir. 1997) (The court held that the PTO is not required, in the course of prosecution, to interpret claims in applications in the same manner as a court would interpret claims in an infringement suit. Rather, the "PTO applies to verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definition or otherwise that may be afforded by the written description contained in application's specification.").

The broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach. In re Cortright, 165 F.3d 1353, 1359, 49 USPQ2d 1464, 1468 (Fed. Cir. 1999).

MPEP 2106: Limitations appearing in the specification but not recited in the claim should not be read into the claim. E-Pass Techs., Inc. v. 3Com Corp., 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003) (claims must be interpreted "in view of the specification" without importing limitations from the specification into the claims unnecessarily). In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969). See also In re Zletz, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow.... The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed.... An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only

in this way can uncertainties of claim scope be removed, as much as possible, during

the administrative process.").

Applicant's arguments, "These claims now comprise an element that clearly

shows that pixel values in a first dither pattern tile are dispersed from other pixel values

in the first dither pattern tile and said pixel values are also dispersed from pixel values in

another color channel. This element is not taught in Daly", page 8, Remarks, section (35

USC §102(e)), with respect to independent claims 14, 21, and 22, have been fully

considered but they are not persuasive, because the amended claim elements are

taught by Daly. For instance, claim 14, recites, "A method for creating a spatio-temporal

array of dither patterns, said method comprising: a. establishing a spatio-temporal array

of dither pattern tiles comprising a plurality of temporal framesets, each of said

framesets comprising a plurality of pattern tiles for each of a plurality of color channels;

and b. designating pixel values in said dither pattern tiles wherein subsequently-

designated pixel values, in a first of said color channels, are spatially dispersed from

previously-designated pixel values in the same dither pattern tile and said subsequently-

designated pixel values are spatially dispersed from pixel values in dither pattern tiles in

another of said color channels, wherein said designating is performed by a computing

device comprising a processor and a memory." (emphasis added by the applicant).

However, Daly, (US 2003/0164961) discloses figures and embodiments teaching the

claim limitations as discussed in the rejection section. For example, Daly discloses a

method for creating a spatio-temporal array of dither patterns (**i.e. creating pseudo-**

random noise, or dither pattern from human visual system and quantization, Par.

26 and Fig. 8, Para. 35), said method comprising:

a. establishing a spatio-temporal array of dither pattern tiles comprising a plurality of

temporal framesets (**Fig. 8 discloses spatio-temporal array of dither pattern tiles**

comprising multiple temporal framesets, Para. 58), each of said framesets

comprising a plurality of pattern tiles for each of a plurality of color channels (**Figs. 4**

and 5, discloses color channels for said framesets, Paras. 40-54); and b.

designating pixel values in said dither pattern tiles wherein subsequently-designated

pixel values (**e.g. such frames 0-n in Frameset P each designating pixel values,**

Figs. 5 and 8), in a first of said color channels, are spatially dispersed from previously-

designated pixel values in the same dither pattern tile and said subsequently-

designated pixel values are spatially dispersed from pixel values in dither pattern tiles in

another of said color channels (**referring to Figs. 4 and 5, embodiments disclose**

image data including color components, i.e. RGB color component for

spatiotemporal dithering process, thus, pixel value, i.e. gray levels, must be

designated for each color component as well as dither pattern tiles with RGB

color channel when noise profile is combined, because dither patterns are

repeated continuously across the image, either horizontally or vertically, and the

final noise profile is combined with color channels image data, Figs. 5 and 8,

Paras. 55-63), wherein said designating is performed by a computing device comprising

a processor and a memory (**referring to Figs. 4 & 5, a display system for**

spatiotemporal dithering includes multiple process modules, i.e. image data is

divided into RGB channels, and memory 30 for storing tiles; that is, there must be a processor, or a CPU controlling the process for performing spatiotemporal dithering; Pars. 54 & 55).

Thus, the argument presented in the Remark is not persuasive, and the rejection is maintained.

The examiner references the application to the following detail discussion of how Daly teaches the claim limitation.

Specification

3.   The disclosure is objected to because of the following informalities: The examiner is aware of that the claim amendment submitted by the applicant on 03/17/2010 has a wrong application number, i.e. "Appl. No. 10/404,201" appears on the top of the claim amendment. The examiner has scrutinized each claim by comparing the currently submitted claim amendment with the previous claim amendment in the record for verification, and come up with the conclusion that applicant had mistakenly typed a wrong application number on the claim amendment.

Appropriate correction is required to avoid any further confusion.

Claim Rejections - 35 USC § 101

4.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

1.   Claims 22 and 23 are rejected under 35 U.S.C. §101 because the claimed inventions are directed to non-statutory subject matter.

4.1   Claim 22 is directed to "a computer-readable storage medium". The recent Office Gazette Notice (Volume 1351, February 23, 2010) regarding "computer-readable medium" claims makes clear that the terms "computer-readable medium" and "machine-readable medium", or its variation, i.e. "computer-readable storage medium", are presumed to include ineligible transitory signals.

The sections of the Office Notice, recites:

"The United States Patent and Trademark Office (USPTO) is obliged to give claims their broadest reasonable interpretation consistent with the specification during proceedings before the USPTO. See In re Zletz, 893 F.2d 319 (Fed. Cir. 1989) (during patent examination the pending claims must be interpreted as broadly as their terms reasonably allow). The broadest reasonable interpretation of a claim drawn to a computer readable medium (also called machine readable medium and other such variations) typically covers forms of non-transitory tangible media and transitory propagating signals per se in view of the ordinary and customary meaning of computer readable media, particularly when the specification is silent. See MPEP 2111.01."

"When the broadest reasonable interpretation of a claim covers a signal per se, the claim must be rejected under 35 U.S.C. § 101 as

covering non-statutory subject matter. See In re Nuijten, 500 F.3d 1346, 1356-57 (Fed.

Cir. 2007) (transitory embodiments are not directed to statutory subject matter) and

Interim Examination Instructions for Evaluating Subject Matter Eligibility Under 35

U.S.C. § 101, Aug. 24, 2009; p. 2."

"....... A claim drawn to such a computer readable medium that covers both

transitory and non-transitory embodiments may be amended to narrow the claim to

cover only statutory embodiments to avoid a rejection under 35 U.S.C. § 101 by adding

the limitation "non-transitory" to the claim. Cf. Animals - Patentability, 1077 Off. Gaz.

Pat. Office 24 (April 21, 1987) (suggesting that applicants add the limitation "non-

human" to a claim covering a multi-cellular organism to avoid a rejection under 35

U.S.C. § 101). ..."

A signal is a form of energy. Thus, a signal is not a machine, not a process, not a

manufacturing and composition of matter. Therefore, the claimed subject matter, i.e. a

"computer-readable storage medium" in claim 22 is directed to a non-statutory subject

matter. Thus, claim 22 are rejection under 35 U.S.C. §101. As indicated in the Office

Gazette notice, the term "non-transitory" can be used in the claim to exclude

ineligible signal embodiments and make the claim eligible under 101.

The Office Gazette notice can be found at

http://www.uspto.gov/web/offices/com/sol/og/2010/week08/TOC.htm#ref20.

4.2   Claim 23 is rejected under 35 U.C.S. 101 because the claimed inventions are

directed to non-statutory subject matter. Claim 23 is directed to a spatio-temporal array

and limitations recite, "said spatio-temporal array comprising: a plurality of temporal

framesets, each of said framesets comprising a plurality of pattern tiles for each of a

plurality of color channels; wherein pixel values in said dither pattern tiles are

designated such that pixel values, in a first dither pattern tile in a first of said color

channels, are spatially dispersed from other pixel values in said first dither pattern tile

and wherein said pixel values in said first dither pattern tile are also dispersed from pixel

values in dither pattern tiles in another of said color channels" . A spatio-temporal array

comprises a plurality of temporal framesets is juts a signal. A signal is a form of energy.

Thus, a signal is not a machine, not a process, not a manufacturing or composition of

matter. Therefore, claim 23 is rejected under 35 U.S.C. 101.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6.   Claims 14, 15, 18, 21, 22 and 23 are rejected under 35 U.S.C. 102(e) as being

anticipated by Daly (US 2003/0164961).

        Regarding claim 14.

Daly discloses a method for creating a spatio-temporal array of dither patterns

(i.e. creating pseudo-random noise, or dither pattern from human visual system

and quantization, Par. 26 and Fig. 8, Para. 35), said method comprising:

a. establishing a spatio-temporal array of dither pattern tiles comprising a plurality of

temporal framesets **(Fig. 8 discloses spatio-temporal array of dither pattern tiles**

comprising multiple temporal framesets, Para. 58), each of said framesets

comprising a plurality of pattern tiles for each of a plurality of color channels **(Figs. 4**

and 5, discloses color channels for said framesets, Paras. 40-54); and b.

designating pixel values in said dither pattern tiles wherein subsequently-designated

pixel values **(e.g. such frames 0-n in Frameset P each designating pixel values,**

Figs. 5 and 8), in a first of said color channels, are spatially dispersed from previously-

designated pixel values in the same dither pattern tile and said subsequently-

designated pixel values are spatially dispersed from pixel values in dither pattern tiles in

another of said color channels **(referring to Figs. 4 and 5, embodiments disclose**

image data including color components, i.e. RGB color component for

spatiotemporal dithering process, thus, pixel value, i.e. gray levels, must be

designated for each color component as well as dither pattern tiles with RGB

color channel when noise profile is combined, because dither patterns are

repeated continuously across the image, either horizontally or vertically, and the

final noise profile is combined with color channels image data, Figs. 5 and 8,

Paras. 55-63), wherein said designating is performed by a computing device comprising

a processor and a memory **(referring to Figs. 4 & 5, a display system for**

spatiotemporal dithering includes multiple process modules, i.e. image data is divided into RGB channels, and memory 30 for storing tiles; that is, there must be a processor, or a CPU controlling the process for performing spatiotemporal dithering; Pars. 54 & 55).

Regarding claim 15, in accordance with claim 14.

Daly' 961 discloses that subsequently-designated pixel values are also dispersed from previously-designated pixel values in other temporal frames (**dither patterns are repeated continuously across the image, either horizontally or vertically, thus subsequently-designated pixel values are also dispersed from previously-designated pixel values in other temporal frames, Figs. 5 and 8, Paras. 55-63**).

Regarding claim 18, in accordance with claim 15.

Daly' 961 discloses pixel values designated in a last temporal frame are considered temporally adjacent to a first-designated frame wherein said pixel values in said first-designated frame have a dispersion effect on pixels designated in said last frame (**Fig. 8 discloses a embodiment that the last frame is temporally adjacent to the first frame and pixel values in said first-designated frame have a dispersion effect on pixels designated in said last frame because dither patterns are repeated continuously across the image, either horizontally or vertically, Figs. 5 and 8, Paras. 55-63**).

Regarding claim 21.

Daly discloses a system for creating a spatio-temporal array of dither patterns, said system (**System of Figs. 4 and 5**) comprising:

a. a spatio-temporal array of dither pattern tiles comprising a plurality of temporal

framesets (**Fig. 8 discloses spatio-temporal array of dither pattern tiles comprising**

multiple temporal framesets, Para. 58), each of said framesets comprising a plurality

of pattern tiles for each of a plurality of color channels (**Figs. 4 and 5, discloses color**

channels for said framesets, Paras. 40-54); and

   b. a designator (**e.g. visual system of Figs 4-5**) for designating pixel values in

said dither pattern tiles wherein said designator designates subsequently-designated

pixel values (**referring to Figs. 4 and 5, embodiments disclose image data**

including color components, i.e. RGB color component for spatiotemporal

dithering process, thus, pixel value, i.e. gray levels, must be designated for each

color component as well as dither pattern tiles with RGB color channel when

noise profile is combined, because dither patterns are repeated continuously

across the image, either horizontally or vertically, and the final noise profile is

combined with color channels image data, Figs. 5 and 8, Paras. 55-63), in a first

dither pattern tile in a first of said color channels (**referring to Fig. 5, spatiotemporal**

noise 24a-24c, crop tile size 28a-28c and tiles per frame in memory 30a-30c are

mapped as 1d, and then added to color channels 10a-10c by individually; thus,

one can say, i.e. tiles per frames in memory 30a, is the first dither pattern tile and

color channel 10a is the first color channel, and so on), wherein said subsequently-

designated pixel values are spatially dispersed from previously-designated pixel values

in said first dither pattern tile (**referring to Figs. 4 and 5, the visual system noise for**

spatiotemporal dithering, i.e. "The dither array is smaller than the image array in

**order to save memory costs, so it must be tiled both spatially and temporally
across the image sequence. The preferred way it to step through the frames of
the dither array spatially across the image in a repeating manner, either
horizontally and vertically, or horizontally, with increment steps at the start-of-
row repeat positions or some other index position"; that is, because of the
repeating manner, i.e. Steps 24, 28 and 30, tiles per frames memory is added back
to color channel and therefore, the designated pixel value are spatially dispersed
from previously-designated pixel value, Par. [0058])** and wherein said subsequently-
designated pixel values are also dispersed from previously-designated pixel values in
dither pattern tiles in another of said color channels, and wherein said designator
comprises a processor and a memory **(referring to Figs. 4 & 5, a display system for
spatiotemporal dithering includes multiple process modules, i.e. image data is
divided into RGB channels, and memory 30 for storing tiles; that is, there must be
a processor, or a CPU controlling the process for performing spatiotemporal
dithering; Pars. 54 & 55)**.

Regarding claim 22.

Claim 22 recites identical features as claim 14, except claim 22 is a computer-
readable medium claim. Thus, arguments similar to that presented above for claim 14
are also equally applicable to claim 22.

Regarding claim 23.

Daly discloses a spatio-temporal array of dither pattern tiles stored on a
computer-readable storage medium, said spatio-temporal array comprising:

a plurality of temporal framesets (**referring to Fig. 8, a plurality of temporal**

framesets, Par. [0058]), each of said framesets comprising a plurality of pattern tiles for

each of a plurality of color channels (**referring to Figs. 4 and 5, as discussed above,**

embodiments disclose image data including color components, i.e. RGB color

component for spatiotemporal dithering process, thus, pixel value, i.e. gray

levels, must be designated for each color component as well as dither pattern

tiles with RGB color channel when noise profile is combined, because dither

patterns are repeated continuously across the image, either horizontally or

vertically, and the final noise profile is combined with color channels image data,

Figs. 4, 5 and 8, Paras. 54-63); wherein pixel values in said dither pattern tiles are

designated such that pixel values (**referring to Figs. 4 and 5, embodiments disclose**

image data including color components, i.e. RGB color component for

spatiotemporal dithering process, thus, pixel value, i.e. gray levels, must be

designated for each color component as well as dither pattern tiles with RGB

color channel when noise profile is combined, because dither patterns are

repeated continuously across the image, either horizontally or vertically, and the

final noise profile is combined with color channels image data, Figs. 5 and 8,

Paras. 55-63), in a first dither pattern tile in a first of said color channels, are spatially

dispersed from other pixel values in said first dither pattern tile and wherein said pixel

values in said first dither pattern tile are also dispersed from pixel values in dither

pattern tiles in another of said color channels (**referring to Figs. 4 and 5, the visual**

system noise for spatiotemporal dithering, i.e. "The dither array is smaller than

the image array in order to save memory costs, so it must be tiled both spatially

and temporally across the image sequence. The preferred way it to step through

the frames of the dither array spatially across the image in a repeating manner,

either horizontally and vertically, or horizontally, with increment steps at the start-

of-row repeat positions or some other index position"; that is, because of the

repeating manner, i.e. Steps 24, 28 and 30, tiles per frames memory is added back

to color channel and therefore, the designated pixel value are spatially dispersed

from previously-designated pixel value, Par. [0058]).

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

8.   Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Daly

(US 2003/0164961) as applied to claim 15, and in view of Lippel (US 4,758,893).

Regarding claim 16, in accordance with claim 15.

Daly' 961 does not explicitly disclose that other temporal frames are weighted.

Lippel' 893 discloses wherein said dispersion from pixel values in other temporal

frames is weighted wherein temporal frames more temporally distant from a pixel value

have a lower dispersion than closer temporal frames (e.g. **Lippel discloses weighted**

temporal frames for subcycling cinematic dither and therefore, temporal instant

of temporal frames can be controlled, col 10, lines 13-24).

Having a method of Daly' 961 reference and then given the well-established

teaching of Lippel' 893 reference, it would have been obvious to one having ordinary

skill in the art at the time the invention was made to modify the method of Daly' 961

reference to include data conversion as taught by Lippel' 893 reference since doing so

would be able to control priority of color channels in the method for creating a spatio-

temporal array of the dither patterns and further the services provided could easily be

established for one another with predictable results.

9.   Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Daly

(US 2003/0164961) as applied to claim 15, and in view of Masuji et al (US 7,110,010).

Regarding claim 17, in accordance with claim 15.

Daly discloses that dispersion from pixel values in said another of said color in

which a pixel value is designated (**referring to Figs. 4 and 5, embodiments disclose**

image data including color components, i.e. RGB color component for

spatiotemporal dithering process, thus, pixel value, i.e. gray levels, must be

designated for each color component as well as dither pattern tiles with RGB

color channel when noise profile is combined, because dither patterns are

repeated continuously across the image, either horizontally or vertically, and the

final noise profile is combined with color channels image data, Figs. 5 and 8,

Paras. 55-63).

Daly' 961 does not explicitly disclose that color channels is weighted wherein said another of said color channels have a lower dispersion.

Masuji' 010 teaches that color channels is weighted wherein said another of said color channels have a lower dispersion than said first of said color channel in which a pixel value is designated (**Masuji' 010 discloses that dither coefficient is weighted with color gradation level and dither coefficient is selected for dithering process, col 4, lines 23-39 and col 14, lines 17-33, and Fig. 17**).

Having a method of Daly' 961 reference and then given the well-established teaching of Masuji' 010   reference, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Daly' 961 reference to include "that color channels is weighted wherein said another of said color channels have a lower dispersion" taught by Masuji' 010 reference since doing so would enhance the method for creating a spatio-temporal array of the dither patterns by selecting different weight level of dither coefficient to optimize dither coefficient patterns and further the services provided could easily be established for one another with predictable results.

Allowable Subject Matter

10.   Claim 20 is allowable. The primary reasons for allowance for claim 20 is the inclusion of the limitation of a method for creating a spatio-temporal array of dither patterns such (a). establishing an initial temporal offset frameset (ITOF), wherein said ITOF comprises a pre-determined pattern for each of a plurality of color channels; (b).

establishing a first temporal frameset comprising dither pattern tiles for each of a

plurality of color channels; (c). designating a first pixel value at a first point in a first

dither pattern tile of said first temporal frameset, wherein said first point is dispersed

from at least one pixel value in said pre-determined pattern, wherein said designating is

performed by a computing device comprising a processor and a memory; (d).

designating a second pixel value at a second point in said first dither pattern tile of said

first temporal frameset, wherein said second point is placed at a location that is

dispersed away from at least one pixel value in said first dither pattern tile, wherein said

designating is performed by said computing device, and repeating steps of designating

pixel value in said multiple dither pattern tiles until all frames of subsequent temporal

framesets have been designated. It is these limitations either alone or combined as

claimed that were taught, found, or suggested by prior part. The closes prior arts in the

record are Lippel (US 4,758,893) and Gupta et al (Gupta) (US 6,851,783).

CONTACT INFORMATION

11.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Steven Kau whose telephone number is 571-270-1120

and fax number is 571-270-2120. The examiner can normally be reached on M-F,

8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David Moore can be reached on 571-272-7437. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

/Steven Kau/
Examiner, Art Unit 2625
April 26, 2010

/David K Moore/

Supervisory Patent Examiner, Art Unit 2625